

CLAIMS

What is claimed is:

1. An attributed debugging system comprising:
a debugger that facilitates debugging of a computer software application; and,
an expression evaluator that employs a display proxy associated with an object of the computer software application to present debug information associated with the object to a developer.
2. The system of claim 1, the expression evaluator evaluates an expression associated with a particular programming language.
3. The system of claim 2, the programming language comprising at least one of C#, J# and Visual Basic.Net.
4. The system of claim 2, comprising a plurality of expression evaluators, each expression evaluator associated with a particular programming language.
5. The system of claim 1, the object comprising a hash table.
6. The system of claim 1, the expression evaluator creating an instance of the display proxy in a debuggee associated with the computer software application.
7. The system of claim 1, the display proxy implemented as a private nested class within the object.
8. The system of claim 7, the display proxy having access to private implementation details of the object.

9. The system of claim 1, further comprising an attribute cache directory that stores an attribute associated with the display proxy, the expression evaluator employing the stored attribute to present debug information.
10. The system of claim 1, employed to editing of a value associated with the object.
11. The system of claim 1, the expression evaluator further employs an attribute associated with the computer software application to present debug information associated with the computer software application to the developer.
12. The system of claim 11, the attribute employed to determine at least one of how and whether a type or member is displayed.
13. The system of claim 12, the attribute employing an enumeration.
14. The system of claim 13, one enumeration value associated with an indication that the type or member should not be displayed to the developer.
15. The system of claim 13, one enumeration value associated with an indication that if a type is hierarchical, it should be expanded by default.
16. The system of claim 13, one enumeration value associated with an indication that a type should not be expanded by default.
17. The system of claim 13, one enumeration value associated with an indication that a target element itself should not be shown, but should instead be automatically expanded to have its member(s) displayed.
18. The system of claim 11, the attribute employed to what is displayed for a class and/or field.

19. The system of claim 18, an argument to the attribute comprising a string that is displayed in a value column for an instance of the class and/or field.
20. The system of claim 18, the argument associated with one of a field, a property and a method.
21. A method facilitating attributed debugging comprising:
 - receiving a request to examine an object;
 - determining whether a display proxy attribute exists for the object;
 - creating a display proxy for the object; and,
 - examining the display proxy.
22. The method of claim 21 further comprising providing information associated with the display proxy in response to the request to examine the object.
23. A computer readable medium having stored thereon computer executable instructions for carrying out the method of claim 21.
24. A data packet transmitted between two or more computer components that facilitates debugging, the data packet comprising:
 - a field that stores a display proxy for an object, the display proxy facilitating debugging of the object.
25. A computer readable medium storing computer executable components of an attributed debugging system comprising:
 - a debugger component that facilitates debugging of a computer software application; and,
 - an expression evaluator component that employs a display proxy associated with an object of the computer software application to present debug information associated with the object to a developer.

26. An attributed debugging system comprising:
- means for determining whether a display proxy attribute associated with an object exists; and,
 - means for creating the display proxy in a debuggee;
 - means for examining the display proxy; and,
 - means for providing information associated with the display proxy in response to a request to examine the object.